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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,484	07/22/2003	Peter T. Tuite	1342/9	9124
33721	7590	08/07/2006	EXAMINER	
TORYS LLP 79 WELLINGTON ST. WEST SUITE 3000 TORONTO, ON M5K 1N2 CANADA			PALABRICA, RICARDO J	
			ART UNIT	PAPER NUMBER
			3663	

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/625,484

Applicant(s)

TUI TE ET AL.

Examiner

Rick Palabrica

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 68-77,82-85 and 88-93 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 68-77,82-85 and 88-93 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/7/06</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Applicant's 6/7/06 amendment, which directly amended claims 68, 73 and 84, added new claims 88-93, amended the specification and Figs. 1, 3 and 5, and traversed the rejection of claims in the 12/20/05 Office action, is acknowledged.

Applicant argues that the claims define over the applied art in the 12/20/05 Office action. The examiner disagrees because the claims still read on said prior art, as discussed below.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 91-93 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite the limitation "container" in the preamble. There is insufficient antecedent basis for this limitation in each claim.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 68, 69, and 88 are rejected under 35 U.S.C. 102(b) as being anticipated by any one of Griffiths et al. (U.S. 6,087,546) or Malandra et al. (U.S. 5,225,150), or Wedellsborg (U.S. 4,767,593) or under 35 U.S.C. 102(a) as being anticipated by Aoki et al. (US 2002/0186806 A1).

Griffiths et al. disclose a package for a decommissioned nuclear pressure vessel (see Figs. 1-8 and Abstract). Applicant's claim language reads on Griffiths et al. as follows: a) "container reads on transport container 24; b) "bottom component" reads on lower cover plate 42; c) "at least one cylindrical component" reads on the cylindrical wall of container 24; d) "top component" reads on top plate 40. Note that the claims do not preclude the bottom component from being connected to or integral with the cylindrical component.

The claims are replete with statements that are either essentially method limitations or statements of intended or desired use. For example, "for a nuclear reactor pressure vessel head with attached control rod mechanisms", "adapted for attachment to a head-to-body joint flange," "for containment of a portion of the pressure vessel head," etc. These clauses, as well as other statements of intended use, do not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

The apparatus of Griffith's et al. (as well as those cited hereunder) is capable of being used in the same manner and for the same intended or desired use as the claimed invention. It is sufficient to show that such capability exists, which is the case for the cited references.

As to claims 68 and 69, applicant has not defined the dimensions of the at least one control rod mechanism, and absent such definition Griffiths et al.'s package is capable of being sized to accommodate a pressure vessel head with at least one control rod mechanism attached. Also, applicant recites a broad term, "control rod mechanism", which is neither used nor defined in the specification. Absent such definition, the examiner reads the term on a control rod drive or driving mechanism (as in the specification, e.g., on pages 2, 11, etc.) or on any mechanism associated with the control rod and its functioning (e.g., a control rod guide within the reactor vessel). Griffiths et al.'s element 15 is such a control rod guide (see Fig. 1 and col. 4, lines 9+).

As to claim 88, Griffiths et al.'s bottom component 42 is attached to the head-to-body head flange through the cylindrical component 24, support lugs 34 and holding studs 44 (e.g., see Fig. 6). Likewise, cylindrical component 24 is attached to the pressure vessel head through support lugs 34. Bottom component 42, in combination with cylindrical component 24, provides containment for the pressure vessel head.

Malandra et al. disclose an integrated head package for a nuclear pressure vessel (e.g. see Fig. 3 and Abstract). Applicant's claim language reads on Malandra et al. as follows: a) "container reads on the combination of shroud assembly 70 and support plate 62; b) "bottom component" reads on thicker shroud bottom 72; c) "at least one cylindrical component" reads on top shroud 74 (see also col. 4, lines 44+); d) "top component" reads on Malandra et al.'s plate 62 (see Fig. 3). Note that the claims do not preclude the bottom component from being connected to or integral with the cylindrical component.

As to claims 68 and 69, note that Malandra et al.'s bottom component 72 contains (i.e., encloses, holds or restrains) at least a portion of pressure vessel head 50 (e.g., see Fig. 3).

As to claim 88, Malandra et al.'s bottom component 72 and cylindrical component 74 that are attached to the head-to-body head flange through stud bolts 54 (e.g., see Fig. 3). Bottom component 72, in combination with cylindrical component 74 provides containment for a portion of the pressure vessel head. Note from Fig. 3 that a portion of said head is enclosed within elements 72, 74.

Wedellsborg discloses a multiple shell nuclear pressure vessel (see Figs. 1-5 and Abstract). Applicant's claim language reads on Wedellsborg as follows: a) "container reads on pressure vessel; b) "bottom component" reads on the hemispherical bottom head of any one of the three nested pressure vessels 12, 14 and 18 (see also col. 3, lines 45+); c) "at least one cylindrical component" reads on any one of the cylindrical shells of nested pressure vessels 12, 14 and 18; d) "top component" reads on any one of Wedellsborg's inlet nozzles at the top of the vessel. Note that the claims do not preclude the bottom component from being connected to or integral with the cylindrical component.

As to claims 68 and 69, Wedellsborg's bottom component, in combination with the cylindrical component, provides containment for the inner surface of pressure vessel head 60, by forming an enclosed volume therewith (see Fig. 1).

As to claim 88, Wedellsborg's bottom component and cylindrical component are attached to the head-to-body head flange through stud bolts 66 (e.g., see Fig. 1).

Aoki et al. disclose a system for transporting a nuclear reactor pressure from within the reactor containment (e.g. see Fig. 8). Applicant's claim language reads on Aoki et al. as follows: a) "container" reads on the combination of shield 60 and elements 63 and 65a; b) "bottom component" reads on bottom cover 60b; c) "at least one cylindrical component" reads on cylindrical wall 61; d) "top component" reads on top cover 60a. Note that the claims do not preclude the bottom component from being connected to or integral with the cylindrical component.

As to claims 68 and 69, note that Aoki et al.'s bottom component 60b, in combination with the cylindrical component and top cover, provides containment for pressure vessel head 37 (e.g., see Fig. 8).

As to claim 88, Aoki et al.'s bottom component 60b and cylindrical component 61 are attached to the head-to-body head flange through cylindrical portion of pressure vessel 1 (e.g., see Fig. 8).

Applicant argues that "none of the cited references, alone or in combination, teaches or suggests containers or packages as claimed by Applicants for the decommissioning and storage of radioactive materials such as used reactor pressure vessel head" (see page 8 of the Amendment). The examiner disagrees. Any one of the apparatus of Griffiths et al. or Malandra et al., or Aoki et al. is capable of being used for said purpose because any decommissioning and storage process requires removal of the pressure vessel head, and this removal that can be performed by any of the apparatus in the three references. As to Wedellsborg, his pressure vessel is inherently capable of being used for permanent storage of the pressure vessel head because the entire reactor and other plant components, can be entombed in place at the end of its useful life, similar to the Chernobyl reactor in Ukraine.

4. Claims 70-72, 76, 82-85, and 91-93 are rejected under 35 U.S.C. 102(b) as being anticipated by Wedellsborg.



As to claims 70-72, Wedellsborg discloses the nested cylindrical components each having a flanges (e.g., see elements 82, 40 in Fig. 2) that are capable of attaching the components to each other and capable of providing a seal between flanges for attaching a first to a second cylindrical component (see also, col. 5, lines 40+).

As to claim 76, Wedellsborg's flanges 28 and 29 that are adapted for absorbing shocks because of their attachment to bellows 36 and 34 (see Fig. 2 and col. 7, lines 9+).

As to claims 83 and 93, Wedellsborg's bottom component inherently includes bosses, e.g., for in-core instrumentation tubes, capable of attachment to structures on the pressure vessel head.

As to claims 84 and 85, Wedellsborg's pressure vessel inherently includes a core barrel or a core shroud for a nuclear reactor, e.g., a PWR or a BWR. Applicant's claim language, "secondary shield" reads on "core barrel" (for a PWR) or "core shroud" (for a BWR) that acts as a radiation shield. This core barrel is cylindrical.

5. Claims 77, 89 and 90 are rejected under 35 U.S.C. 102(b) as being anticipated by Malandra et al.

As to claim 77, see Fig. 3 and col. 4, lines 58+.

As to claims 89 and 90, note from Fig. 3 that part of the pressure vessel head and part of the head-to-body flange is exposed to the atmosphere.

6. Claims 77, 82, 84 and 85 are rejected under 35 U.S.C. 102(b) as being anticipated by Griffiths et al.

As to claims 84 and 85, Griffiths et al. disclose supplemental steel shielding 26 (see Fig. 8 and col. 4, lines 49+).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 70, 71, and 73-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffiths et al. in view of either one of Peters et al. (U.S. 6,489,623 B1) or Botzem et al. (U.S. 4,456,827). Griffiths et al. disclose the Applicant's claims except for the flange construction for the components and use of a neoprene gasket between components.

Griffiths et al., who teach a shipping container for a reactor pressure vessel wherein the upper cover plate 40 is welded to the cylindrical body of the container 24, has been discussed above.

Either one of Peters et al. or Botzem et al. teach a shipping container for radioactive materials wherein the lid of the container is attached to the body by a sealed, flanged configuration (e.g., see Fig. 1 and Abstract of Peters et al. or Fig. 2 and Abstract of Botzem et al.)

As to claim 75, Peters et al. teach the use of silicon rubber gaskets and neoprene is a well-known alternative to silicon rubber. Also, Applicant himself admits that the selection of sealing materials is within the skill of artisans (see paragraph 0039). MPEP 2129 [R-1] states:

*"When applicant states that something is prior art, it is taken as being available as prior art against the claims. Admitted prior art can be used in obviousness rejections."*

One having ordinary skill in the art at the time of the invention would have recognized that the primary and secondary references are in the same field of endeavor, i.e., shipment of radioactive nuclear materials. This artisan would also have recognized that a configuration of a pre-fabricated lid cover that is gasket-sealed to the body of the container is advantageous over a lid-welded-to-the-body configuration because of reduced assembly time and thereby reducing radiation dose to workers.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus, as disclosed by Griffiths et al., to used a flanged construction for the top plate and the cylindrical component and have the two components sealed by a gasket such as neoprene, to gain the advantages thereof (i.e., lower radiation dose on workers), because such modification is no more than the use of well known expedients for sealing shipping containers in the nuclear art.

### **Conclusion**

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RJP  
July 31, 2006

  
RICARDO J. PALABRICA  
PRIMARY EXAMINER